

a reference frame; and

a position detecting system including three position detection devices, each position detecting device comprising:

a radiation source mounted on said reference frame;

a two-dimensional radiation detector mounted in a fixed position on said reference frame; and

a mirroring device mounted on one of said object tables that is moveable relative to said reference frame so as to reflect radiation emitted by said radiation source toward said radiation detector, wherein the three position detecting devices are arranged non-parallel to each other.

19. (New) Apparatus according to claim 18, wherein the three position detecting devices are arranged orthogonally with respect to each other.

20. (New) Apparatus according to claim 18, wherein the radiation source and the two-dimensional radiation detector of each position detecting device are adjacent to one another.